

What is claimed is:

1. A tilt correcting apparatus for correcting a tilt amount of a light beam to be radiated from a pickup to a disk, the apparatus comprising:

5 a pre-pit signal producer configured to produce a pre-pit signal indicative of an existence/nonexistence of a pre-pit formed on the disk on the basis of returned light of the light beam radiated onto the disk;

an RF signal producer configured to produced an RF signal from bits of information recorded on the disk on the basis of the  
10 returned light;

a correcting-amount deciding unit configured to decide an optimum tilt-correcting amount by making use of a relationship between the pre-pit signal and the RF signal ; and

a tilt corrector configured to correct the tilt amount on the  
15 basis of the optimum tilt-correcting amount.

2. The tilt correcting apparatus according to claim 1, wherein the correcting-amount deciding unit comprises:

a first detecting device configured to detect a first tilt amount  
20 providing an amount of the tilt maximizing the amplitude of the RF signal;

a second detecting device configured to detect a second tilt amount providing an amount of the tilt maximizing an amplitude of the pre-pit signal;

25 a calculating device configured to calculate an offset tilt amount indicative of a difference between the first and second tilt amounts; and

a deciding device configured to decide the optimum tilt-correcting amount using the offset tilt amount.

30 3. The tilt correcting apparatus according to claim 2, wherein the correcting-amount deciding unit further comprises boundary detecting device configured to detect a boundary existing between an

information-recorded region and an information-nonrecorded region on the disk,

wherein the first detecting device is configured to detect the first tilt amount in the information-recorded region near the boundary,  
5 and

the second detecting device is configured to detect the second tilt amount in the information-nonrecorded region near the boundary.

4. The tilt correcting apparatus according to claim 2, wherein  
10 the correcting-amount deciding unit is configured to decide the optimum tilt-correcting amount on the basis of the RF signal when the tilt amount in the information-recorded region on the disk is corrected and to decide the optimum tilt-correcting amount on the basis of the LPP signal and the offset tilt amount when the tilt amount in the  
15 information-nonrecorded region on the disk is corrected.

5. The tilt correcting apparatus according to claim 2, wherein the correcting-amount deciding unit is configured to decide, as the optimum tilt-correcting amount, a tilt-correcting amount  
20 corresponding to the first tilt amount when the tilt amount in the information-recorded region on the disk is corrected and to decide, as the optimum tilt-correcting amount, a tilt-correcting amount corresponding to a sum of the second tilt amount and the offset tilt amount.

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6. The tilt correcting apparatus according to claim 1, wherein the correcting-amount deciding unit further comprises a correction profile producing device configured to allow the optimum tilt-correcting amount to be obtained at each correcting reference  
30 position determined previously on the disk and configured to produce a correction profile consisting of the optimum tilt-correcting amount at each correcting reference position; and

wherein the tilt corrector is configured to correct the tilt

amount on the basis of the correction profile.

7. The tilt correcting apparatus according to claim 6, further comprising a disk rotation controller configured to make the disk rotate, the disk rotation controller configured to make the disk rotate at a constant angular velocity in cases where the correcting-amount deciding unit obtains the optimum tilt-correcting amount at each correcting reference position.

8. The tilt correcting apparatus according to claim 1, further comprising a memory configured to memorize the optimum tilt-correcting amount obtained at each of a plurality of radial positions of the disk.

9. A tilt correcting method of correcting a tilt amount of a light beam to be radiated from a pickup to a disk, the method comprising the steps of:

producing a pre-pit signal indicative of an existence/nonexistence of a pre-pit formed on the disk on the basis of returned light of the light beam radiated onto the disk;

producing an RF signal from bits of information recorded on the disk on the basis of the returned light;

deciding an optimum tilt-correcting amount by making use of a relationship between the pre-pit signal and the RF signal ; and

correcting the tilt amount on the basis of the optimum tilt-correcting amount.